UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,782	10/22/2001	Hiroyuki Ishikawa	215204US0X	8403

22850 7590 09/03/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
EGAN, BRIAN P	
ART UNIT	**PAPER NUMBER**
1772	10

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/982,782	ISHIKAWA ET AL.
	Examiner	Art Unit
	Brian P. Egan	1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *12-15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Interpretation

1. The newly amended limitation in Claim 1, i.e., "whereby, when said laminate is heated, said microspheres increase in volume facilitating peelability of said top layer from said substrate," is given little to no patentable weight. First, the aforementioned limitation is not a positive limitation since the term "when" does not positively limit the claim. The laminate need not be heated to be in accordance with the Applicant's claimed invention. Second, the aforementioned limitation is a process limitation. Process limitations are not germane to the issue of patentability of the article itself. Whether the microspheres are already expanded when placed in the adhesive substrate or expanded after being added to the adhesive substrate does not patentably distinguish the claimed invention from a prior art article comprising expandable microspheres. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-194811 in view of Darvell et al. (#4,855,170) and *Expancel Microspheres: An Introduction* (herein referred to as *Expancel*).

JP '811 teaches the use of an adhesive comprising an ethylene vinyl acetate copolymer in an anionic polyurethane aqueous emulsion wherein the EVA emulsion is at least 70% wt. toluene insoluble (see Abstract). The adhesive is used as a bonding layer between similar or dissimilar substrates including plastic sheet, porous board, and metal plate (see Abstract – note that wood is inherently porous and "aluminum foil" is inclusive of "decorated metal plate."). JP '811 teaches that the EVA component comprises 50-90% of the composition and the anionic polyurethane comprises 10-50% of the composition. Although JP '811 fails to explicitly teach the tensile strength and percent elongation of the adhesive substrate, the compositional range is inclusive of the compositions detailed by the Applicant (see Examples 4-5, 10-11, and 16-17 in Tables 1-3 of the Applicant's specification – in each of the aforementioned examples, the composition of the adhesive substrate is 80-90% EVA and 10-20% anionic polyurethane) and therefore the adhesive of JP '811 inherently comprises a tensile strength and percent elongation as claimed by the Applicant. Furthermore, JP '811 teaches equivalent heat resistance creep properties of the adhesive (see Abstract).

JP '811 fails to teach the use of heat expandable microspheres and therefore also fails to teach a peelable top layer.

Darvell et al., however, teach the use of gas-filled polymer shelled microspheres in adhesives (see Abstract; Col. 4, lines 24-51). The adhesive composition to which the microspheres is non-limiting although Darvell et al. do give rubber-based and acrylate adhesives as two possible examples (Col. 3, lines 56-66). The gas-filled polymer shells include Expancel microspheres (Col. 4, line 34) which, as evidenced by *Expancel*, are gas-filled polymer shelled microspheres wherein the expanding magnification of the shells is 40 times and the expanding

start temperature is between 80 and 190 degrees Celsius (see p. 1 of pamphlet). Darvell teaches that the microspheres are added to an adhesive substrate in a compositional volume percent between 20 and 66% of the substrate (see Abstract) (note also that *Expancel* teaches that the microspheres may be introduced at levels as low as 0.5 -6% of the substrate and still be effective (see pgs. 7-8 of pamphlet)). Darvell et al. teach that the microspheres may be added to a substrate either in pre-expanded form or as unexpanded microspheres that are later expanded (Col. 3, line 67 to Col. 4, line 16). Darvell et al. teach the use of gas-filled microspheres for the purpose of providing an adhesive that binds two substrates together and exhibits repositionable features, thereby providing an adhesive whose attached substrate is peelable (see Abstract). It would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have combined the teachings of both JP '811 and Darvell et al. since both of the aforementioned references are analogous insofar as providing products capable of adhering multiple substrates to one another.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified WO '480 to include expandable microspheres as taught by Darvell et al. (and *Expancel*) in order to provide an adhesive that binds two substrates together and exhibits repositionable features, thereby providing an adhesive whose attached substrate is peelable.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-194811, Darvell et al. ('170), and *Expancel Microspheres: An Introduction* (herein referred to as *Expancel*), and further in view of Bernard et al. (#5,240,989).

JP '811, Darvell et al., and *Expancel* teach a laminate as detailed above. The aforementioned prior art fails to teach the use of a polyurethane dispersion with sulfonate groups.

Bernard et al., however, teach a removable adhesive comprising anionic sulfonate dispersions (Col. 5, line 47 to Col. 6, line 16). Bernard et al. teach the use of anionic sulfonate dispersions for the purpose of maintaining the stability of the adhesive while preventing coagulation of the adhesive (Col. 5, line 47 to Col. 6, line 16). It would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have combined the teachings of the aforementioned prior art with the teachings of Bernard et al. since both are analogous insofar as being directed at adhesive bonding.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the aforementioned prior art by including an anionic sulfonate dispersion as taught by Bernard et al. in order to maintain the stability of the adhesive while preventing coagulation of the adhesive.

Response to Arguments

5. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 703-305-3144. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 703-308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

BPE
August 20, 2003

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

8/22/03